dimension being approximately equal to a limit, wherein the size of said graphic representation is free from changing while said scale is altering, wherein said manipulator interacts directly with said graphic representation to said enable said alteration.

REMARKS

The Examiner rejected claims 1-6 under 35 U.S.C. Sec. 103(a) as being unpatentable over Sciammarella et al. (U.S. Patent No. 6,320,599) in view of Kreegar (U.S. Patent No. 5,396,590).

Sciammarella et al. disclose a system whereby various objects are selectively enlarged or reduced in size on a screen using a zooming operation. At least three marks are displayed to provide a visual indication of the limits for zoom-in and zoom-out operations. The first and second marks indicate limits for enlarging and decreasing a picture, respectively, while the third mark indicates a position of the current screen display with respect to the displayed limits for the zoom-in and zoom-out operations. See Sciammarella et al., abstract, and FIG. 3.

Sciammarella et al. teach that when the user selects the zoom-in or zoom-out operation, three sets of marks 122, 124, 126 are provided on the display screen 102 as shown in FIG. 3. The first set 122 is zoom-in marks which indicate a limit for the zoom-in operation on the display screen 102, and the second set 126 is zoom-out marks which indicate a limit for the zoom-out operation. The third set 124 is position indicating marks for providing a visual indication of the current position of the display screen 102 with respect to the marks 122, 126. See Sciammarella et al., column 3, lines 26-34.

Sciammarella et al. further teach that the user, via the input device 112, positions the cursor 116 on a portion 118 (a so-called toolbar) on the display screen 102 as illustratively shown in FIG. 2. From the toolbar, a zoom operation may be selected by moving the cursor 116 to an appropriate item in a pull-down menu, such as a sub-menu 120, and clicking on "ZOOM-IN" of the sub-menu 120, for example, as shown in FIG. 2.

Accordingly, Sciammarella et al. teach using the traditional technique for interacting with objects on the display, namely, navigating the menus on a toolbar to achieve the desired zooming within the display screen. The purpose of this navigation is so that when the user views objects (such as object 108) on the display screen during the zoom-in/out operation, the user knows exactly how far the display is from the upper and lower limits of zooming. See, Sciammarella et al., column 3, lines 35-44. In essence, Sciammarella et al. teach a traditional zooming technique, where the size of the graphical window increases or decreases, together with limit indications.

The Examiner notes that Sciammarella does not specifically teach that the manipulator interacts directly with the graphic representation to enable alteration. The Examiner then suggests that it is known in the art that a manipulator can interact directly with the graphic representation. The Examiner suggests that Kreegar teaches direct manipulation of graphic objects using shape control tools.

Claim 1 has been amended to patentably distinguish over Sciammarella et al. in view of Kreegar by claiming that the size of the graphic representation is free from changing while the scale is altering, wherein the manipulator interacts directly with the graphic representation to enable the alteration.

Sciammarella et al. nor Kreegar, alone or in combination, suggest that the size of the graphic representation is free from changing while the scale is altering, wherein the manipulator interacts directly with the graphic representation to enable the alteration. Further, the Sciammarella et al. reference is primarily directed to including a set of graphical marks to indicate zooming limits and accordingly does not suggest including additional functionality within the system to support such interaction.

Claims 2-6 depend from claim 1 and are patentable for the same reasons asserted for claim 1.

The Examiner rejected claims 7-32 and 34-39 under 35 U.S.C. Section 103(a) over Gest et al., U.S. Patent No. 5,333,247, in view of Sciammarella et al., U.S. Patent No. 6,320,599.

Gest et al. disclose a tool for a display system comprising means for superimposing a box on a portion of a buffer of data visible on a display; the box being representative of the size and location of the visible portion with respect to the whole of the buffer. By the provision of means for interacting with the scroll box the user is provided with a user-friendly manner of scrolling around a document in a plurality of directions. The scroll tool is much more convenient to use than conventional scroll bars and does not take up unnecessary screen real estate. See Gest et al., abstract. Accordingly, Gest et al. teach the use of a scroll tool to provide interaction with a scroll box to select different portions of the buffer for viewing as opposed to conventional scroll bars. In essence, Gest et al. merely teach a different interface for scrolling data within a window, such as a word processor like Microsoft Word.

The Examiner suggests that Gest et al. teach a computer implemented graphical user interface, at FIGS. 2A-2D, that includes a manipulator that enables a user to alter the size of an active region, with box 16.

A more detailed reading of Gest et al. suggest that the box 16 is representative of the size and location of the displayed portion of the buffer of data to the whole buffer. See, Gest et al., column 5, lines 45-57. Box generation logic, as illustrated in FIG. 3, determines the size of the box to be displayed. The size of the box is automatically determined based upon the system variables. See, Gest et al., column 5, line 58 to column 6 line 18. The box 16 is automatically sized by the system relative to the window 12, so that the user can be given a visual representation of how much of the buffer 14 is being displayed within the window 12 relative to the size of the whole buffer 14. See, Gest et al., column 6, lines 40-47. In addition, the system automatically provides a minimum box 16 size. See, Gest et al., column 6 lines 19-24.

As it may be observed, Gest et al. simply fail to suggest anywhere that the user has the option of changing the size of the box 16. Moreover, Gest et al. is directed to a replacement for scroll bars on the edge of windows, which has nothing to do with scaling and changing the size of the active region. In addition, there would be no motivation to permit the user to modify the size of the box 16 because the resulting data would not then necessarily fit on the screen. Furthermore, the system automatically calculates the optimum size of the box 16 to provide the user with visual representations of the data being displayed, which would be frustrated if the user were permitted to modify the size of the box 16.

In addition, the Examiner notes that Gest et al. do not teach altering the scale of an object by interaction of the manipulator and the graphic representation having a dimension approximately equal to a limit. The Examiner then indicates that the scaling of objects within limits is known in the art. The Examiner further suggests including the teaching of Sciammarella et al. of zooming scale indicators with the system of Gest et al. The Examiner further suggests that Kreegar teaches direct manipulation of graphic objects using shape control tools.

Claim 7 patentably distinguishes over Gest et al. in view of Sciammarella et al. by claiming a manipulator enabling a user of a computer to alter a size of an active region of an information area on said computer between a plurality of limits by interaction of said manipulator with a dimension of a graphic representation of said active region.

The applicant respectfully disagrees with the applicability of the Examiner's suggested combination of references and the resulting interface. While the applicant agrees that the scaling of objects within limits is known in the art, the applicant respectfully disagrees that Gest et al. disclose the ability to alter the size of the active region. In addition, there would be no motivation to modify the size of the active region of Gest et al. because the resulting data would not necessarily fit on the window and would frustrate the stated purpose of Gest et al. to automatically size the box which is to provide the user with a visual representation of the amount of data being display.

Sciammarella et al. fail to suggest direct interaction with the graphic representation. Also, the Sciammarella et al. reference is primarily directed to including a set of graphical marks to indicate zooming limits and accordingly does not suggest including additional functionality within the system to support direct interaction with the graphical representation. Further, Gest et al. fail to properly suggest interaction directly with the graphic representation to alter the scale of the object, nor does the combination of Gest et al. and Sciammarella et al. suggest interaction directly with the graphic representation to alter the scale of the object.

Claims 8-11 depend from claim 7 and are patentable for the same reasons asserted for claim 7.

Claim 12 is patentable for analogous reasons asserted for claim 7.

Claims 13-16 depend from claim 12 and are patentable for the same reasons asserted for claim 12.

With respect to claim 17 the Examiner suggest that Gest et al. teach a positioning tool, and a sizing tool. However, the Examiner notes that Gest et al. do not specifically teach a scaling tool, as claimed.

As previously discussed, the Applicant respectfully disagrees that Gest et al. disclose a sizing tool enabling the user to alter the size of the active region. The only sizing functionality provided by Gest et al. is automatic sizing provided by the computer system itself, which does not permit the user to alter the size of the active region. As noted by the Examiner, the Applicant would further point out that Gest et al. fail to teach a scaling tool. Accordingly, Gest et al. disclose merely a box 16 for scrolling and fails to disclose a sizing tool or a scaling tool, as claimed in claim 17.

Claim 17 patentably distinguish over Gest et al. in view of Sciammarella et al. by claiming the combination of a positioning tool, a sizing tool, and a scaling tool enabling the user

to alter a scale of an object displayed by the computer by interaction of the scaling tool with the graphical representation having a size approximately equaling the limit, wherein the scaling tool interacts directly with the graphic representation to enable scale alteration.

As an initial matter Sciammarella et al. fail to disclose a scaling tool apart from the menu, and further direct interaction of the scaling tool with the graphic representation to enable scale alteration. Also, the Sciammarella et al. reference is primarily directed to including a set of graphical marks to indicate zooming limits and accordingly does not suggest including additional functionality within the system to support direct interaction with the graphical representation. Further, Gest et al. fail to properly suggest interaction directly with the graphic representation to alter the scale of the object, nor the inclusion of a scaling tool, nor does the combination of Gest et al. and Sciammarella et al. suggest interaction of a scaling tool directly with the graphic representation to alter the scale of the object.

In addition, as discussed in the specification at page 6, line 19, to page 7, line 2, to make effective use of the computer, the user should be able to move the window relative to the information area so that all regions of the virtual information area are visible and available for the object manipulation provided by the program. Movement of the window relative to the information area is accomplished by scrolling which effectively moves the information area under the window. Likewise, the user may wish to zoom in or out, effectively moving closer or further away from the information area, to view different levels of detail. Scrolling and zooming are actions which are often performed contemporaneously, but controlled by separate, remotely located controls making rapid switching between modes difficult and frustrating. The present inventors realized that it would be easier to use the computer if scrolling and zooming could be accomplished by directly altering the position and size of an active portion of the information area displayed in the window with a simple manipulator.

Claim 17 further patentably distinguish over Gest et al. in view of Sciammarella et al. by claiming the combination of a positioning tool wherein the positioning tool interacts directly with the graphic representation to enable moving the active region; a sizing tool wherein

said sizing tool interacts directly with the graphic representation to enable the size alteration, a scaling tool wherein the scaling tool interacts directly with the graphic representation to enable the scale alteration.

There is not suggestion in Gest et al. that the claimed functions such as scrolling and zooming, which are actions which are often performed contemporaneously, but controlled by separate, remotely located controls making rapid switching between modes difficult and frustrating, should be combined in some manner. In fact, if such claimed functions were to be combined traditional skill in the art would suggest that they be controlled by remotely located controls, such as the scroll bars and pull-down menu selections. This is in direct contrast to the claimed direct interaction between the graphic representation and the corresponding tool.

Claims 18-21 depend from claim 17 and are patentable for the same reasons asserted for claim 17.

Claim 22 is similar to claim 17 and is patentable for analogous reasons asserted for claim 17.

Claims 23-27 depend from claim 22 and are patentable for the same reasons asserted for claim 22.

Claim 28 patentably distinguishes over Gest et al. in view of Sciammarella et al. by claiming the combination of altering a portion of the data area included in the active region by altering a dimension of the graphic between a plurality of limits by direct interaction of a cursor and the graphic and altering the data included in the active region to change a scale of an object visible on the display by interaction of the cursor with the graphic having the dimension approximately equal to the limit, wherein the manipulator interacts directly with the graphic representation to enable the scale alteration.

As an initial matter Sciammarella et al. fail to disclose altering the scale of the graphic apart from the menu, and further direct interaction of a cursor with the graphic. Also, the Sciammarella et al. reference is primarily directed to including a set of graphical marks to indicate zooming limits and accordingly does not suggest including additional functionality within the system to support direct interaction with the graphical representation. Further, Gest et al. fail to properly suggest interaction directly with the graphic representation to alter the scale of the object, nor does the combination of Gest et al. and Sciammarella et al. suggest interaction of the cursor with the graphic representation to alter the scale of the object.

In addition, as discussed in the specification at page 6, line 19, to page 7, line 2, to make effective use of the computer, the user should be able to move the window relative to the information area so that all regions of the virtual information area are visible and available for the object manipulation provided by the program. Movement of the window relative to the information area is accomplished by scrolling which effectively moves the information area under the window. Likewise, the user may wish to zoom in or out, effectively moving closer or further away from the information area, to view different levels of detail. Scrolling and zooming are actions which are often performed contemporaneously, but controlled by separate, remotely located controls making rapid switching between modes difficult and frustrating. The present inventors realized that it would be easier to use the computer if scrolling and zooming could be accomplished by directly altering the position and size of an active portion of the information area displayed in the window with a simple manipulator.

Claim 28 further patentably distinguish over Gest et al. in view of Sciammarella et al. by claiming the combination of altering a portion of the data area included in the active region by altering a dimension of the graphic between a plurality of limits by direct interaction of a cursor and the graphic, and altering the data included in the active region to change a scale of an object visible on the display by interaction of the cursor with the graphic having the dimension approximately equal to the limit, wherein the manipulator interacts directly with the graphic representation to enable the scale alteration.

There is not suggestion in Gest et al. that the claimed functions such as scrolling and zooming, which are actions which are often performed contemporaneously, but controlled by separate, remotely located controls making rapid switching between modes difficult and frustrating, should be combined in some manner. In fact, if such claimed functions were to be combined traditional skill in the art would suggest that they be controlled by remotely located controls, such as the scroll bars and pull-down menu selections. This is in direct contrast to the claimed direct interaction between the graphic representation and the cursor.

Claims 29-33 depend from claim 28 and are patentable for the same reasons asserted for claim 28.

Claim 34 has been amended in a manner similar to claim 28 and is patentable for analogous reasons asserted for claim 28.

Claims 35-37 and 39-41 depend from claim 34 and are patentable for the same reasons asserted for claim 34.

The Examiner is respectfully requested to reconsider claims 1-37 and 39-41, in view of the forgoing amendments and remarks, and to pass the application to issue.

Respectfully submitted,

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APPENDIX

1. A computer implemented graphical user interface comprising a manipulator enabling alteration of a scale of an object displayed by a computer by altering a dimension of a graphic representation of an active region of data on said computer, said dimension being approximately equal to a limit, wherein the size of said graphic representation is free from changing while said scale is altering, wherein said manipulator interacts directly with said graphic representation to said enable said alteration.